Retinoic acid synthesis and signaling during early organogenesis.

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Public Summary:

Scientific Abstract:
Retinoic acid, a derivative of vitamin A, is an essential component of cell-cell signaling during vertebrate organogenesis. In early development, retinoic acid organizes the trunk by providing an instructive signal for posterior neuroectoderm and foregut endoderm and a permissive signal for trunk mesoderm differentiation. At later stages, retinoic acid contributes to the development of the eye and other organs. Recent studies suggest that retinoic acid may act primarily in a paracrine manner and provide insight into the cell-cell signaling networks that control differentiation of pluripotent cells.